Typical Frasca 14X Fuselage and Operation Station with Optional X,Y Plotter and Computer Interactive Flight Simulation (CIFS)

140/240 SERIES SIMULATORS

140/240 SERIES SIMULATORS

All Frasca 140/240 series simulators are state-of-the-art training devices. Because of the high fidelity of simulation achieved in all Frasca simulators, when used with a coordinated training syllabus, they can dramatically increase student proficiency.

Frasca's Computer Generated Simulation (CGS) approach makes it the world's leading cost-effective flight simulator. Using an all-digital multi-processor design that performs computations 30 times per second, Frasca simulators are the most responsive, realistic simulators of their kind. Until Frasca developed the microprocessor-based 140 series simulators, complex flight equations duplicating such realism were possible only in multi-million dollar simulators.

ADVANCED GLOBAL NAV SYSTEM

One of the most significant advantages of the 140/240 series simulators is its highly flexible, expanded navigation system. There are over 200 programmable ground stations available in an unlimited, global gaming area defined by actual latitude and longitude coordinates. Through a computer displayed menu the operator may create, update, or delete any VOR, DME, ILS, localizer, NDB, or marker beacon station. A Frasca simulator gives a whole new meaning to the term "user friendly" as it leads the operator through a short series of easy, direct questions. No knowledge of computers or programming is necessary to duplicate virtually any instrument enroute or terminal structure in the world!

Students will be able to use their own current instrument enroute and terminal charts in the simulator. Pilots will be able to fly a proposed route and terminal approaches for familiarity before getting into the airplane! The operator can create special situations to enhance training effectiveness because there is total control over station type, ident code, magnetic variation, range, frequency, location, elevation, runway bearing, runway length and glideslope angle.

Because of the unique nature of CGS, changes in navigation aids do not require that you purchase expensive EPROMS from the manufacturer. You are totally in control at all times, instantly adding and deleting stations as necessary.

GLOBAL NAV SYSTEM FEATURES

- Unlimited lat/long-based global gaming area
- Over 200 User-programmable navigation stations
- Station data stored in non-volatile memory
- Nav facility audio idents are simulated
- VHF Station range varies with altitude
- LF station broadcast range is programmable
- ILS Glideslope angles are programmable
- Operator can fail any ground station independently
- Magnetic variation and field elevation are simulated
- DME stations ident once every 30 seconds
- Pre-positioned relative to any station
- Nav receivers can be failed independently
- Compass locators are simulated

FRASCA AVIONICS PACKAGE

The Frasca Avionics Package comes as standard equipment on all model 140/240 simulators. It includes:

- King KMA-24 Audio Panel
- 720-Com/Nav Radio (2)
- Digital ADF
- 4096-Code Transponder
- Distance Measuring Equipment

FLIGHT PERFORMANCE CAPABILITIES

Accuracy is the test of a flight simulator, particularly in its instrument performance. Right from start-up it's apparent Frasca simulators meet the challenge. All instruments and controls perform as you would anticipate.

FIXED WING FLIGHT SIMULATORS

High simulation fidelity is immediately obvious during taxi when nose wheel steering, rudder, differential braking and differential power (twin engine models) all have the appropriate effect. So striking is the ground handling simulation that when the twin engine model is used with an optional visual system the pilot can actually see the wings rock with the application of differential power. From minimum controllable airspeed to cruise, control response varies appropriately with airspeed. Stall, which varies with angle of bank, power and flap position, is accurately simulated.

Standard Frasca Avionics Package.

THE FRASCA 140/240 SERIES SIMULATORS

In flight, elevator trim neutralizes control pressure in the new yoke position, and rate of turn is inversely proportional to airspeed for any given angle of bank. A change in gross weight or center of gravity, available to the operator through the Operator Control Monitor (OCM), affects both flight response and stability. Even inherent stability and the phugoid oscillation are accurately duplicated.

ROTOR WING FLIGHT SIMULATORS

The special aerodynamics associated with rotor wing aircraft are no exception to Frasca's attention to detail. Accurate aerodynamic modeling for the type of aircraft simulated is all important to the training mission. Hover, translational flight, autorotations and retreating blade stall are all realistically duplicated.

PERFORMANCE CONSTANT TEMPLATES

Its one thing to have a flight training device that simulates a "generic" aircraft, its another to have one that models the actual performance and handling characteristics of your own aircraft. Prior to now the customer had two choices: buy a low cost generic training device which didn't perform or handle like their aircraft, or have a very high-cost simulator built. But now Frasca simulators are more cost effective than ever with Multiple Performance Constant Templates.

Each simulator leaves the factory with a set of performance constants designed to simulate an aircraft typical of its category. It also comes with a set of blank performance constant templates that permit the operator to custom design the simulator's performance and handling. Over 70 constants may be set as easily as specifying a percentage increase or decrease. For instance, you have control over the effect of flaps on drag. If the simulator currently displays less effect than desired, simply increase the percentage value until you achieve the desired results; its that simple. Its now possible to closely approximate the performance and handling characteristics of virtually any single or twin engine aircraft in your training fleet: fixed pitch, fixed gear or constant speed, retractable. In fact, every Frasca simulator includes 8 blank performance constant templates!

OPERATOR STATION

The Operator station, designed to keep work load to a minimum, is composed of 3 major sections: the Operator Console, Operator Control Monitor (OCM) and optional X, Y Plotter. Commonly used controls are located on the Operator Console. Numerous additional computer controlled parameters and system failures are available through OCM menus. The optional X, Y plotter gives the operator a real-time display of simulator ground track.

OPERATOR CONSOLE

Commonly used controls are conveniently located on the Operator Console, they include: Power key and indicator light, freeze switch, slew control, reset button, intercom volume control, transmit selector, speaker switch, engine sound volume, and microphone and headphone jacks.

Typical 140/240 Series Operator Console.

Standard Frasca Operator Station featuring Operator Control Monitor, Operator Console (lower, right), and optional X,Y Plotter (top).

OPERATOR CONTROL MONITOR (OCM)

The two most significant features of Frasca's microprocessor technology are flexibility and ease of operation. Computer generated, plain English menus are displayed on the OCM. A main menu automatically appears on the monitor when the simulator is turned on or reinitialized. A single keystroke takes the operator to any menu where one or two keystrokes can activate over 60 simulator variables and system failures. The operator has complete control of simulated environment, system and instrument failures, and navigation data base management.

X, Y PLOTTER

The optional X, Y Plotter provides a real-time display and hardcopy of the simulator's ground track. Variable plotting scale and center reference station provide maximum operator flexibility in observing enroute or terminal procedures.

OPTIONAL EQUIPMENT

Custom panel layout, specific avionics or specialized equipment are available upon request. See Options brochure for details. Frequently chosen options include:

- King Silver Crown Avionics
- Variable Scale X, Y Plotter
- Computer Interactive Flight Simulation (CIFS)
- Color, day/night visual
- Dual needle RMI
- King KI 525 Pictorial Navigation Indicator
- King KFC 200 Flight Director
- Millibars on altimeter (inches standards)
- Turn coordinator (replaces needle/ball)
- Spares tool kit

POWER REQUIREMENT

110 VAC or 220 VAC at 60 or 50 Hz. Total power consumption is less than 600 watts.

For information on specific models, see individual product information sheets or contact the factory.

Leaders
in cost-effective
simulation.

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